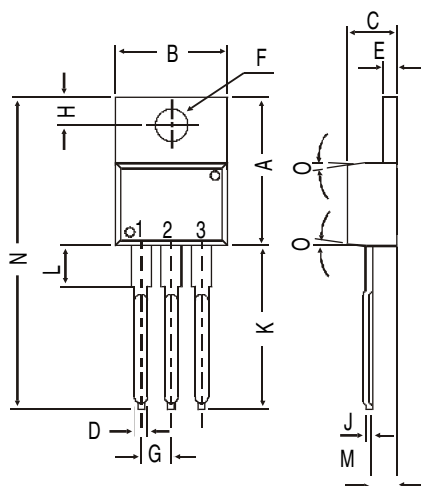
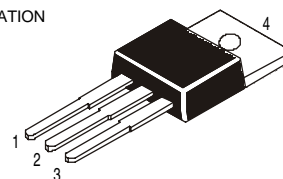


TO-220 Plastic Package

CSB507, CSD313

CSB507 PNP PLASTIC POWER TRANSISTOR
 CSD313 NPN PLASTIC POWER TRANSISTOR
 Low frequency Power Amplifier Applications

PIN CONFIGURATION
 1. BASE
 2. COLLECTOR
 3. EMITTER
 4. COLLECTOR



DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O	DEG 7	

All dimensions in mm.

ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)
 Collector-emitter voltage (open base)
 Collector current
 Total power dissipation up to $T_C = 25^\circ\text{C}$
 Junction temperature
 Collector-emitter saturation voltage
 $I_C = 2\text{A}; I_B = 0.2\text{A}$
 D.C. current gain
 $I_C = 1\text{A}; V_{CE} = 2\text{V}$

V_{CB0}	max.	60 V
V_{CE0}	max.	60 V
I_C	max.	3.0 A
P_{tot}	max.	30 W
T_j	max.	150 °C
V_{CEsat}	max.	1.0 V
h_{FE}	min	40
	max.	320

RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)

Limiting values

Collector-base voltage (open emitter)	V_{CB0}	max.	60 V
Collector-emitter voltage (open base)	V_{CE0}	max.	60 V
Emitter-base voltage (open collector)	V_{EBO}	max.	5.0 V

CSB507, CSD313

Collector current	I_C	max.	3.0 A
Collector current (Peak value)	I_{CM}	max.	8.0 A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	30 W
Junction temperature	T_j	max.	150 °C
Storage temperature	T_{stg}		-65 to +150 °C

THERMAL CHARACTERISTICS

From junction to case	$R_{th\ j-c}$	=	4.17 °C/W
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CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

Collector cutoff current

$I_E = 0; V_{CB} = 20V$

$I_B = 0; V_{CE} = 60V$

I_{CBO} max. 0.1 mA

I_{CEO} max. 5.0 mA

Emitter cut-off current

$I_C = 0; V_{EB} = 4V$

I_{EBO} max. 1.0 mA

Breakdown voltages

$I_C = 1\text{ mA}; I_B = 0$

$I_C = 1\text{ mA}; I_E = 0$

$I_E = 1\text{ mA}; I_C = 0$

V_{CEO} min. 60 V

V_{CBO} min. 60 V

V_{EBO} min. 5.0 V

Saturation voltage

$I_C = 2\text{ A}; I_B = 0.2\text{ A}$

V_{CEsat}^* max. 1.0 V

Base emitter on voltage

$I_C = 1A; V_{CE} = 2V$

$V_{BE(on)}^*$ max. 1.5 V

D.C. current gain

$I_C = 0.1A; V_{CE} = 2V$

h_{FE}^* min. 40

$I_C = 1A; V_{CE} = 2V^{**}$

h_{FE}^* min. 40
max. 320

Transition frequency

$I_C = 500\text{ mA}; V_{CE} = 5V$

f_T typ. 8 MHz

* Pulse test: pulse width $\leq 300\ \mu\text{s}$; duty cycle $\leq 2.0\%$.

** h_{FE} classification: C: 40-80 D: 60-120 E: 100-200 F: 160-320

Customer Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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